

Work Order ID 80288

80288

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February-16-12 10:28:04 AM

Item ID: D3391-021 Accept *N900040100* Setup Start *NS1*
 Revision ID: Stop *NS2*
 Item Name: Fwd Tube Assembly
 Start Date: 16/02/2012 Start Qty: 1.00 *1* Cust Item ID:
 Required Date: 01/03/2012 Req'd Qty: 1.00 *1* Customer:
 Reference:

Approvals: Process Plan: M.C.J. Date: 12/02/12 Tooling: Date: Run Start *NR1*
 QC: Date: SPC (Y/N): Date: Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D3391	I								
100		0.00							
100	Skidtubes								
Skidtubes	Memo	0.00							
Skidtubes	Cut extrusion to 46.52 +0.010 -0.020								
110		0.00							
110	BENDING MACHINE - SKIDTUBES								
CNC Bend 1	Memo	0.00							
CNC Delta 100 Bender	Bend as per Dwg D3391 Using Bend Prog 3391021								
120		0.00							
120	QC5- Inspect part completeness to step on W/O								
QC	Memo	0.00							
Quality Control									

12/03/01

12-3-1

6.750

BE

12/03/01

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

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Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130 *130* HAAS I HAAS CNC vertical machine #1	HAAS CNC VERTICAL MACHINING #1 Memo 1-Machine as per Folio FA590 Rev. <u>44</u> & Dwg D3391 Rev. <u>21</u> <i>ent 12/03/05</i> Identify as D3391-1 2-Deburr	0.00 0.00				<u>1</u>	<u>0</u>		
140 *140* QC Quality Control	QC2- Inspect parts off machine FAI/FAIB Memo	0.00 0.00				<u>1</u>	<u>0</u>		
150 *150* Mill Conv Conventional Milling Machine	CONVENTIONAL MILLING MACHINE Memo Drill X1 Aft cap as per Dwg D3391 .1875" dia	0.00 0.00				<u>1</u>			

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Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160 *160* QC Quality Control	QC2- Inspect parts off machine FAI/FAIB Memo	0.00 0.00		12-3-5		1			
170 *170* QC Quality Control	QC8- Inspect parts - second check Memo	0.00 0.00		12/3/5		1			

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N900040100Setup Start ***NS1***

Revision ID:

Item Name: Fwd Tube Assembly

Stop ***NS2***

Start Date: 16/02/2012 Start Qty: 1.00

1

Cust Item ID:

Required Date: 01/03/2012 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

180

0.00

180

Skidtubes

Skidtubes

Memo

0.00

1-Drill Remaining two holes for tow cap using DT 8819 Locating off of .1875" holes drilled in previous step

2-Drill float bag holes as per Dwg D3391 using DT8798(Do not open tow cap holes to finish size)
(ONLY DRILL HOLES MARKED "A")

3-Open tow cap holes to .208" as per Dwg D3391

4-Open Tow Ring hole to .640" as per Dwg D3391

5- open float bag holes 0.328" and counter sink as per dwg D3391

6-Deburr & Scribe Batch number Inside aft end.

7-Transfer drill D3391-021 with D3391-023

NO WEARPLATE HOLES ARE TRANSFER DRILLED

190

QC5- Inspect part completeness to step on W/O

0.00

190

QC

Memo

0.00

Quality Control

5/7/13/06

1 X CF 12-3-6

DP 12-3-6

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Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
200	Chemical Conversion Coat per QSI005 4.1	0.00							
200									
HandFinish	Memo	0.00							
Hand Finishing									
210	QC3- Inspect Part Finish	0.00							
210									
QC	Memo	0.00							
Quality Control									
220	Skidtubes	0.00							
220									
Skidtubes	Memo	0.00							
Skidtubes	1-instal spacers as per dwg D3391 A/R Magnabond 6398 batch: <u>m/20666</u> exp. date: <u>13-01-30</u> cure time 12hrs. as per QSI015 2- grind crossbolt flush 3-back drill crossbolt if necessary								

① 7/6/12-3-7

① SAO 12-03-07

① SAO 12-03-07

W/O:		WORK ORDER CHANGES					
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Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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 Required Date: 01/03/2012 Req'd Qty: 1.00 ***1*** Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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230 QC5- Inspect part completeness to step on W/O 0.00

230

QC

Memo

0.00

Quality Control

5.12/13/08

235 Pressure Wash per QSI005 4.3 0.00

235

HandFinish

Memo

0.00

Hand Finishing

AND REALODINE AS PER PAR09-043

1X8 m/l 12/03/08

240 White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum 0.00

240

Powdercoat

Memo

0.00

Powder Coating

START TIME:

OVEN TEMPERATURE:

FINISH TIME:

2:30
3200F
3:00

1X8 m/l 12/03/09

PA →

M120222

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: Re work D3371-021 PAR #: _____ Fault Category: Finishing / Powder coat NCR: Yes No DQA: *[initials]* Date: 12/03/15
 Resolution: Re work Disposition: Re work QA: N/C Closed: *[initials]* Date: 12/03/16

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
12/03/10	# 200	tube missing PL. R.C. not Powder coated enough. L.A.	S 12/03/10 ASZ042	- Scuff with 320 grit Re Powder coat as per ASZ 005 Start 9:30 01-	M- 12/03/10 M- 12/03/10	S 12/03/10	S 12/03/10 ASZ047	S 12/03/10
			S 12/03/10 ASZ042	Temp 320 Pin 9:30		S 12/03/10	S 12/03/10 ASZ042	S 12/03/10

NOTE: Date & initial all entries

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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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Item ID: D3391-021

Accept

N900040100Setup Start ***NS1***

Revision ID:

Item Name: Fwd Tube Assembly

Stop ***NS2***

Start Date: 16/02/2012 Start Qty: 1.00

1

Cust Item ID:

Required Date: 01/03/2012 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals:

Process Plan: _____

Date: _____

Tooling: _____

Date: _____

Run Start ***NR1***

QC: _____

Date: _____

SPC (Y/N): _____

Date: _____

Stop ***NR2***Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

260

Identify as per dwg & Stock Location W160.00 0412 - 7-12-043 / 381086***260***

Packaging

Memo

0.00

1 0 12/03/13

Packaging

280

QC21- Final Inspection - Work Order Release

0.00

280

QC

Memo

0.00

MC5 12/03/13

Quality Control

ME
12-03-13

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____
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Picklist Print

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Work Order ID: 80288

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Parent Item: D3391-021

D3391-021

Parent Item Name: Fwd Tube Assembly

Start Date: 16/02/2012

Required Date: 01/03/2012

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP A05.09.13New issue KJ/JLM
 IPP B06.02.10Dwg rev.D ecn 773 EC
 IPP C06.05.02Added inspections EC
 IPP D 07.03.13 rev F dwg EC
 IPP E 07.11.07 revG dwg ecn1053P EC verified by: DD
 IPP Rev:f ECN 1056 07-11-12 DD verified by: EC
 IPP Rev:G 08-09-08 new process (ecn 08-510) DD verified by:EC
 IPP Rev:H 08-09-10 revH as per dwg DD verified by:EC
 IPP Rev I 09.02.02 added hardware EC verified by: DD IPP Rev:J
 11.11.14 AS PER REV.I DD verified by:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D4095-051		Manufactured	No			255	Each	15.0000	1	1			
D4095-051									**			12/03/13	
Wearpad Assembly													
				<u>Location</u>				<u>Loc Qty</u>		<u>Loc Code</u>			
				FP001				15					
				78821				15					
D6013-047		Manufactured	No			100	Each	127.0000	1	1			
D6013-047									**			12/03/01	
Skidtube Material													
				<u>Location</u>				<u>Loc Qty</u>		<u>Loc Code</u>			
				LG				127					
				72505				127					
D3670-4-200		Manufactured	No			220	Each	99.0000	4	4			
D3670-4-200									**			12-03-07	
SPACER													
				<u>Location</u>				<u>Loc Qty</u>		<u>Loc Code</u>			
				LG001				99					
				72851				7					
				77500				32					
				78606				60					

W/O:		WORK ORDER CHANGES					
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Work Order ID: 80288

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Parent Item: D3391-021

D3391-021

Parent Item Name: Fwd Tube Assembly

Start Date: 16/02/2012

Required Date: 01/03/2012

Start Qty: 1.00

Required Qty: 1.00

D3401-041 Manufactured No

255

Each

7.0000

1

1

D3401-041

Tow Cap Assembly

**

B78990 (x1) JH 12/03/13

Location

Loc Qty

Loc Code

FP002

7

76211

7

AN960C10L NAS1149C0332 Purchased No

255

Each

0.0000

10

10

***AN960C10I *** ✕

washer

**

11120648 (x10) JH 12/03/13

AN3C4A Purchased No

255

Each

3,439.000

10

10

AN3C4A

BOLT

**

11120930 (x10) JH 12/03/13

Location

Loc Qty

Loc Code

ST350

3439

117313

2

117688

5

117872

10

118112

16

118451

2

119749

10

120187

2000

120423

394

120521

1000

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____
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D3391-021

Parent Item Name: Fwd Tube Assembly

Start Date: 16/02/2012

Required Date: 01/03/2012

Start Qty: 1.00

Required Qty: 1.00

D3672-1

Manufactured No

255 Each

924.0000 4 4

D3672-1

Phenolic Washer

**

Jul 12/03/12

Location

Loc Qty

Loc Code

FP001

288

66821

288

ST060

636

72229

136

76277

500

X4

AEIS-1032-225

Purchased

No

255 Each

0.0000 10 10

AFI S-1032-225

INSERT

AKS4-1032-225

**

M120410 (x10) Jul 12/03/12

W/O:		WORK ORDER CHANGES					
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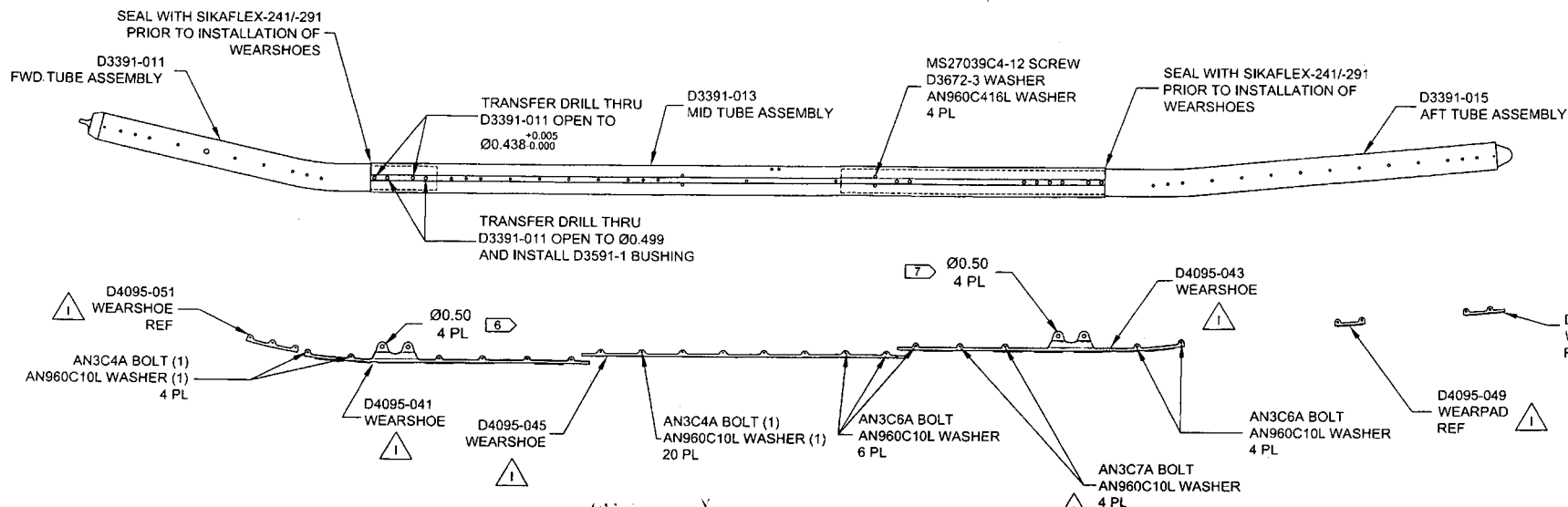
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D3391-041 FLOAT SKIDTUBE ASSEMBLY PARTS LIST

QTY -041	PART NUMBER	DESCRIPTION
X	D3391-041	FLOAT SKIDTUBE ASSEMBLY
1	D3391-011	FWD TUBE ASSEMBLY
1	D3391-013	MID TUBE ASSEMBLY
1	D3391-015	AFT TUBE ASSEMBLY
2	D3591-1	BUSHING
4	D3672-3	WASHER
1	D4095-041	WEARSHOE
1	D4095-043	WEARSHOE
1	D4095-045	WEARSHOE
1	D4095-047	WEARPAD
1	D4095-049	WEARPAD
1	D4095-051	WEARSHOE
24	AN3C4A	BOLT
10	AN3C6A	BOLT
4	AN3C7A	BOLT
38	AN960C10L	WASHER
4	MS27039C4-12	SCREW
4	AN960C416L	WASHER

GENERAL NOTES

- 1) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
- 2) COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON"
AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF POWDER COATING WITH MEK DEGREASER.
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) USE DART DRILL TEMPLATE DT8217 TO LOCATE AND DRILL Ø0.297 SIZE HOLES
FOR WEARSHOE INSERTS. C'BORE AS NOTED AND INSTALL INSERTS EXCEPT
WHERE INDICATED.
- 6) FIT D4095-041 TO SKIDTUBE WITH D2571 AND D2572 SADDLES INSTALLED WITH
APPROPRIATE HARDWARE AND SPACERS IN FORWARD AND AFT HOLES AND
TRANSFER DRILL Ø0.50 HOLES FROM SADDLE TO D4095-041
- 7) FIT D4095-043 TO SKIDTUBE WITH D2571 AND D2572 SADDLES INSTALLED WITH
THE APPROPRIATE HARDWARE AND SPACERS IN FORWARD AND AFT HOLES AND
TRANSFER DRILL Ø0.50 HOLES FROM SADDLE TO D4095-043

RELEASED
2011-11-04
ECN# 11-662

I	REMOVE GASKETS AND REPLACE ALL WEARSHOES; PARTS LIST UPDATE, ZN A8-1, ZN A8-2, ZN A6-4, ZN B6-8; LPS-3 COATING REMOVED FROM NOTE 2, ZN A3-1, ZN A3-2, REMOVED INSERT AELS-1032-130, ZN B6-4, B2-4, C7-8, C3-8; REMOVED HOLES, ZN D6-4 ZN D2-4, ZN D7-8, ZN D3-8	XDF	11.10.13
H	DRAWING UPDATED TO CURRENT STANDARDS. SHT 1 PL ADDED D3591-1 BUSHING. ZN C6 Ø0.438 DIM WAS 4 PL. ADDED Ø0.499 DIM AND D3591-1 BUSHING. SHT 2 PL ADDED D3591-1 BUSHING. ZN C6 Ø0.438 DIM WAS 4 PL. ADDED Ø0.499 DIM AND D3591-1 BUSHING. (FOR FURTHER INFO SEE DSI 9364 & NCR 08-074)	AJS	08.08.20
G	REPLACE NAS INSERTS W/ AELS INSERTS SWITCH TO D3670-XXXX SPACERS FOR INSTALLING FLOAT BAGS, DWG REORGANIZED FOR CLARITY	DC	07.07.31
F	ADD SS WEARSHOE, GASKET REMOVE FWD SADDLE HOLE -011/-021	PH	07.01.18
E	CHANGE TOLERANCE, EASE MANUFACTURE	PH	06.04.25
D	UPDATE TOLERANCE, CHANGE HOLE SIZE	PH	06.01.23
C	LENGTHEN AFT EXTENSION	PH	05.09.27
B	DRAWING UPDATES	PH	05.06.10
A	NEW ISSUE	PH	05.02.07
REV.	DESCRIPTION	BY	DATE
DESIGN	PH	DART AEROSPACE USA, INC	
DRAWN	XDF	KENT, WA	
CHECKED		DRAWING NO.	REV. I
MFG. APPR.		D3391	SHEET 1 OF 8
APPROVED		TITLE	SCALE
DE APPR.		412 FLOAT SKIDTUBE	NTS
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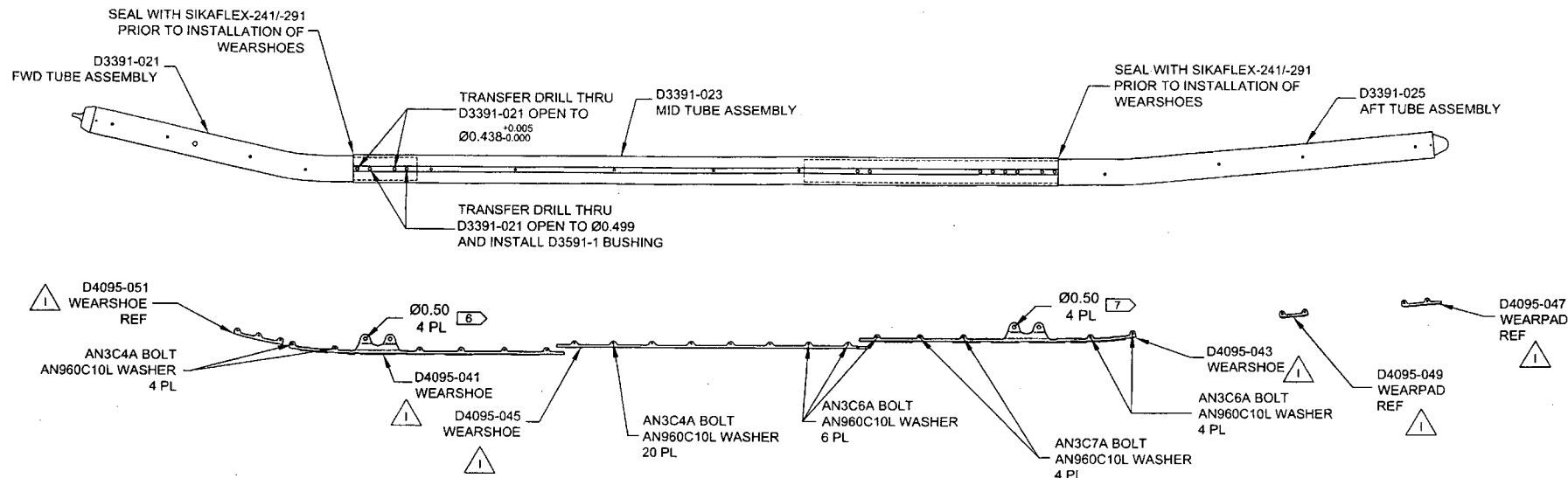
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**D3391-043 ASSEMBLY****D3391-043 FLOAT SKIDTUBE ASSEMBLY PARTS LIST**

QTY -043	PART NUMBER	DESCRIPTION
X	D3391-043	FLOAT SKIDTUBE ASSEMBLY
1	D3391-021	FWD TUBE ASSEMBLY
1	D3391-023	MID TUBE ASSEMBLY
1	D3391-025	AFT TUBE ASSEMBLY
2	D3591-1	BUSHING
1	D4095-041	WEARSHOE
1	D4095-043	WEARSHOE
1	D4095-045	WEARSHOE
1	D4095-047	WEARSHOE
1	D4095-049	WEARSHOE
1	D4095-051	WEARSHOE
24	AN3C4A	BOLT
10	AN3C6A	BOLT
4	AN3C7A	BOLT
38	AN960C10L	WASHER

GENERAL NOTES

- 1) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
- 2) COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON"
AFTER FINAL ASSEMBLY. CLEAN EXCESS OFF POWDER COATING WITH MEK DEGREASER.
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) USE DART DRILL TEMPLATE DT8217 TO LOCATE AND DRILL 0.297 SIZE HOLES
FOR WEARSHOE INSERTS. CBORE AS NOTED AND INSTALL INSERTS EXCEPT
WHERE INDICATED.
- 6) FIT D4095-041 TO SKIDTUBE WITH D2571 AND D2572 SADDLES INSTALLED WITH
APPROPRIATE HARDWARE AND SPACERS IN FORWARD AND AFT HOLES AND
TRANSFER DRILL 0.50 HOLES FROM SADDLE TO D4095-041
- 7) FIT D4095-043 TO SKIDTUBE WITH D2571 AND D2572 SADDLES INSTALLED WITH
THE APPROPRIATE HARDWARE AND SPACERS IN FORWARD AND AFT HOLES AND
TRANSFER DRILL 0.50 HOLES FROM SADDLE TO D4095-043

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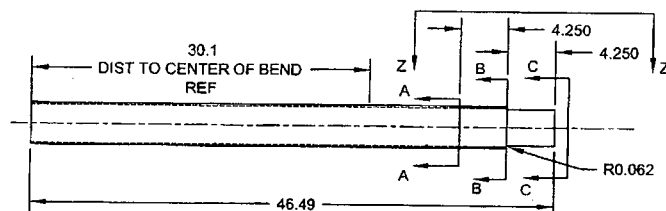
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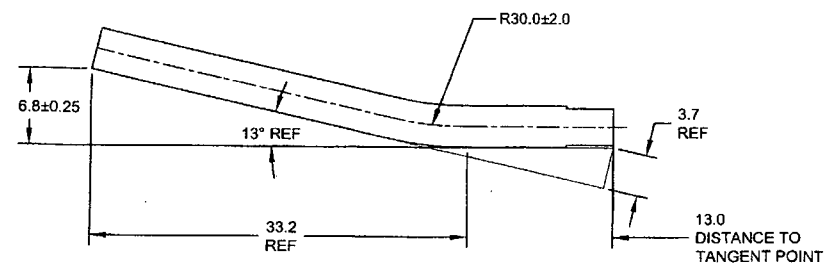
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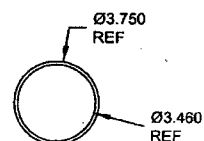
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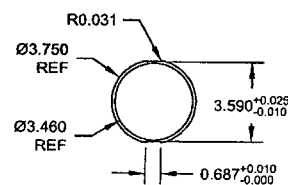
D3391-1 CUTTING DETAIL
(MAKE FROM D6013-047 SKIDTUBE MATERIAL)



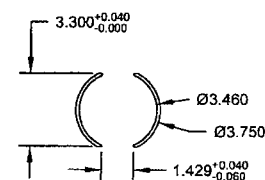
D3391-011/-021 BENDING DETAIL
(MAKE FROM D3391-1)



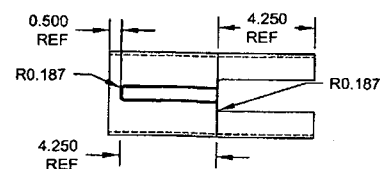
SECTION A-A
SCALE 2X



SECTION B-B
SCALE 2X



SECTION C-C
SCALE 2X



VIEW Z-Z
SCALE 2X

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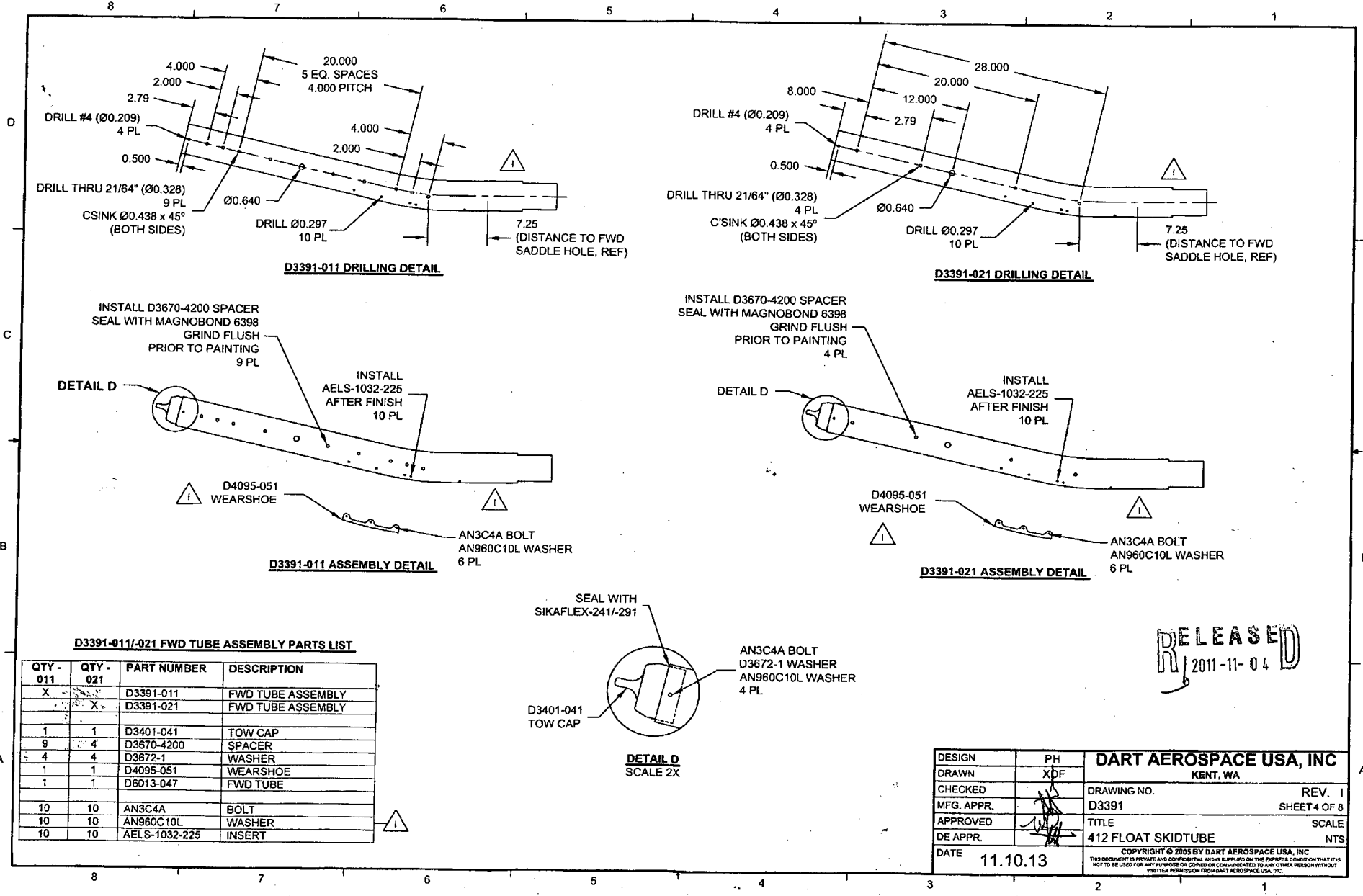
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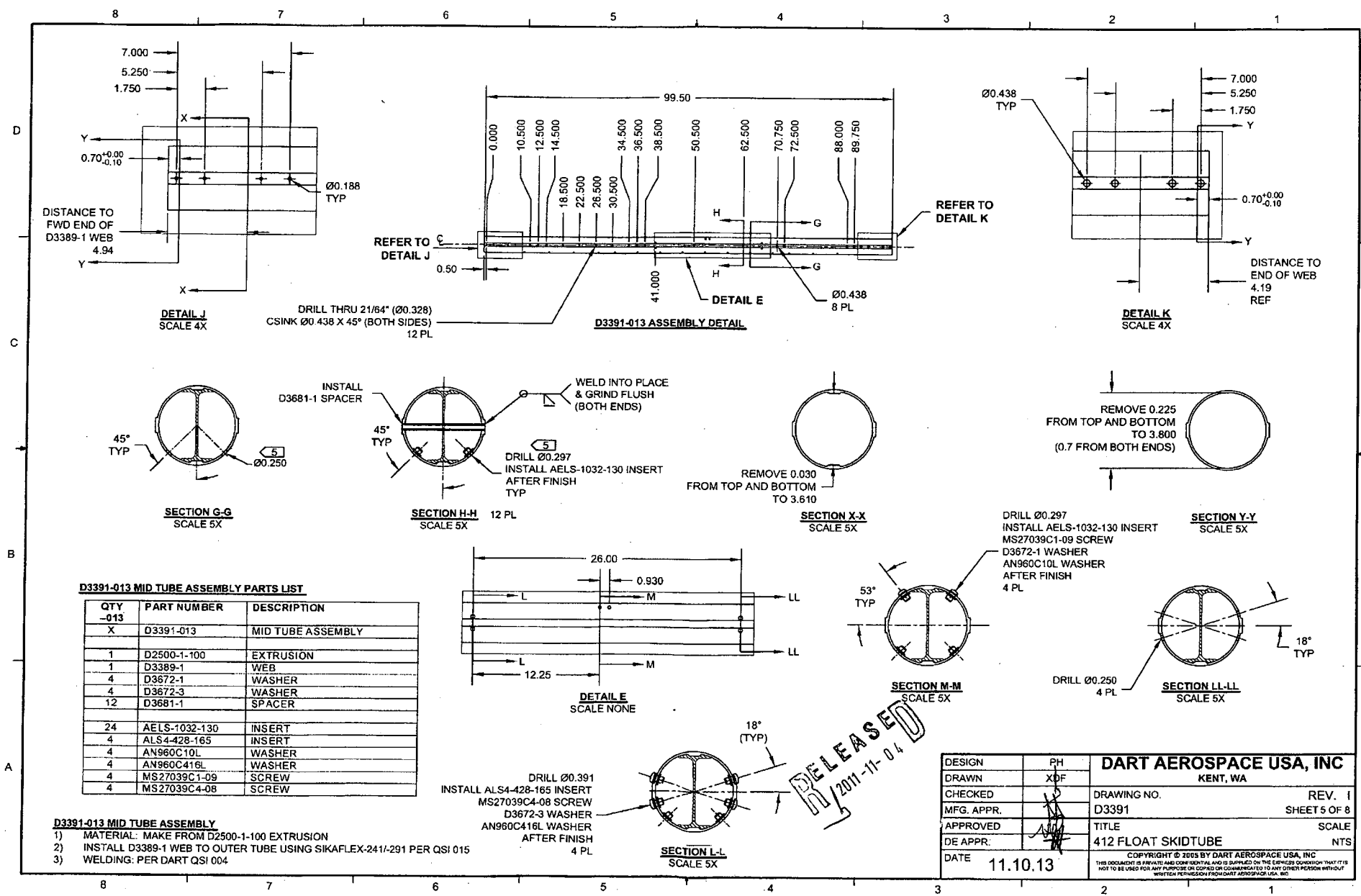
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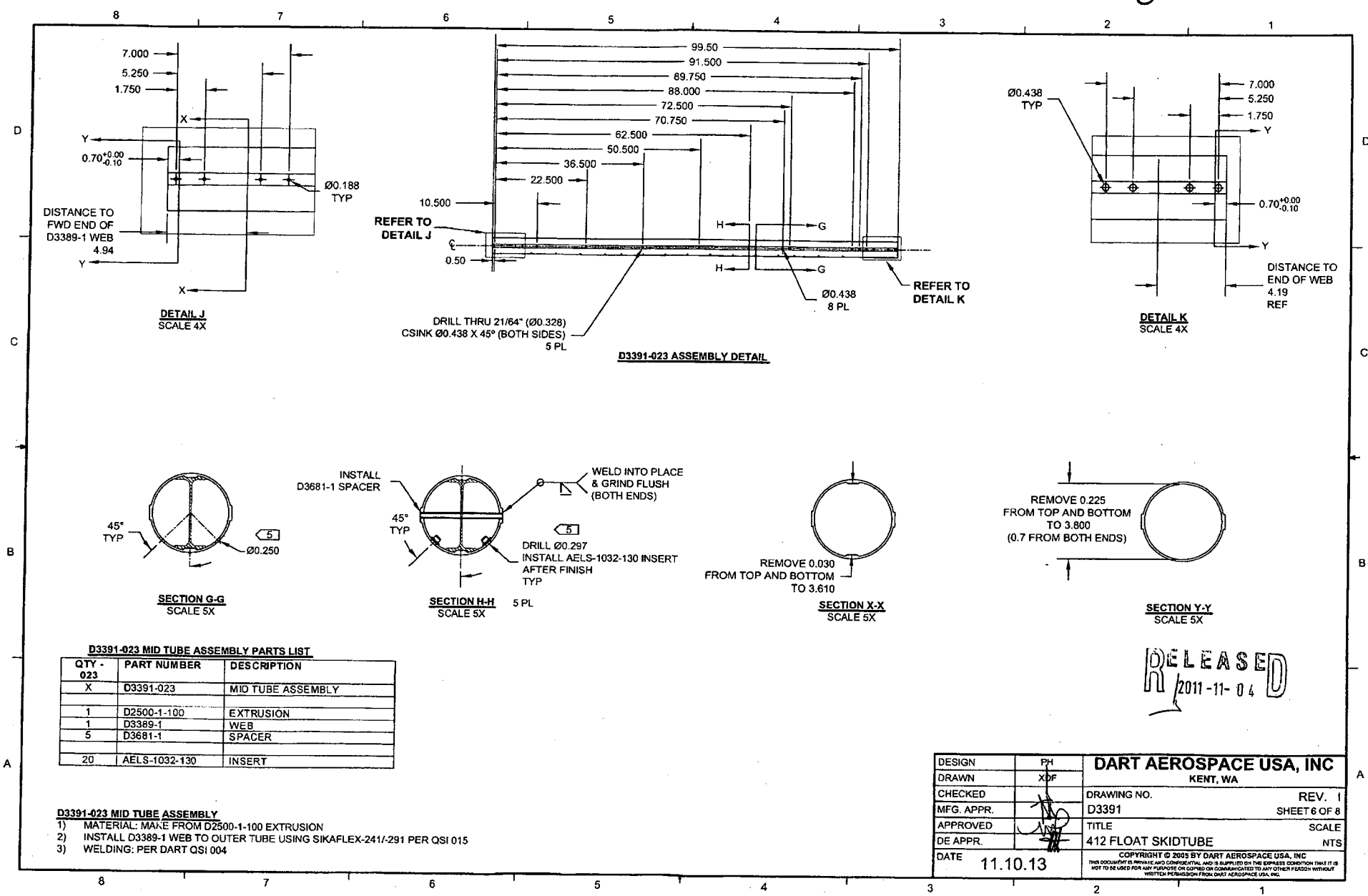
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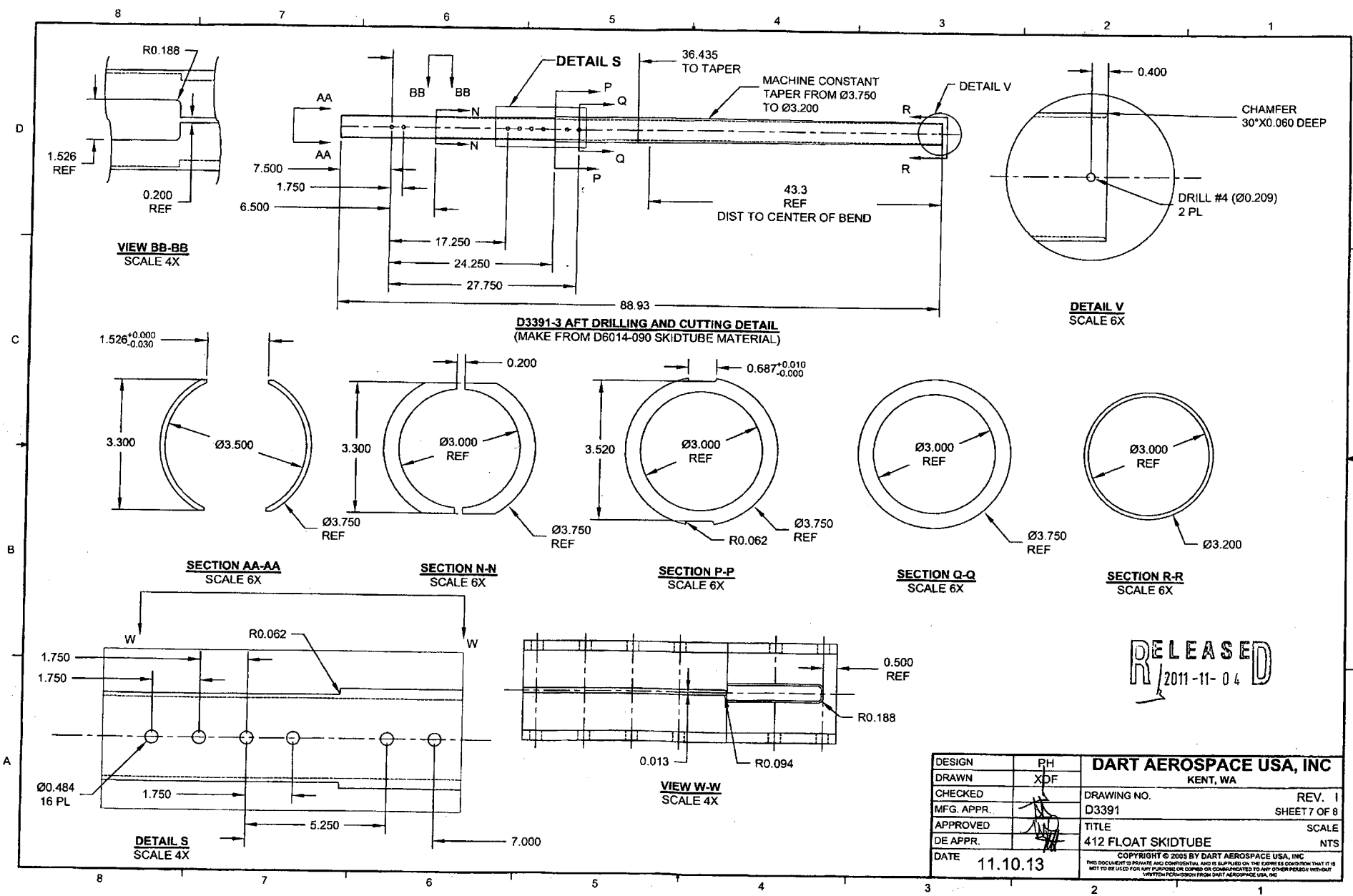
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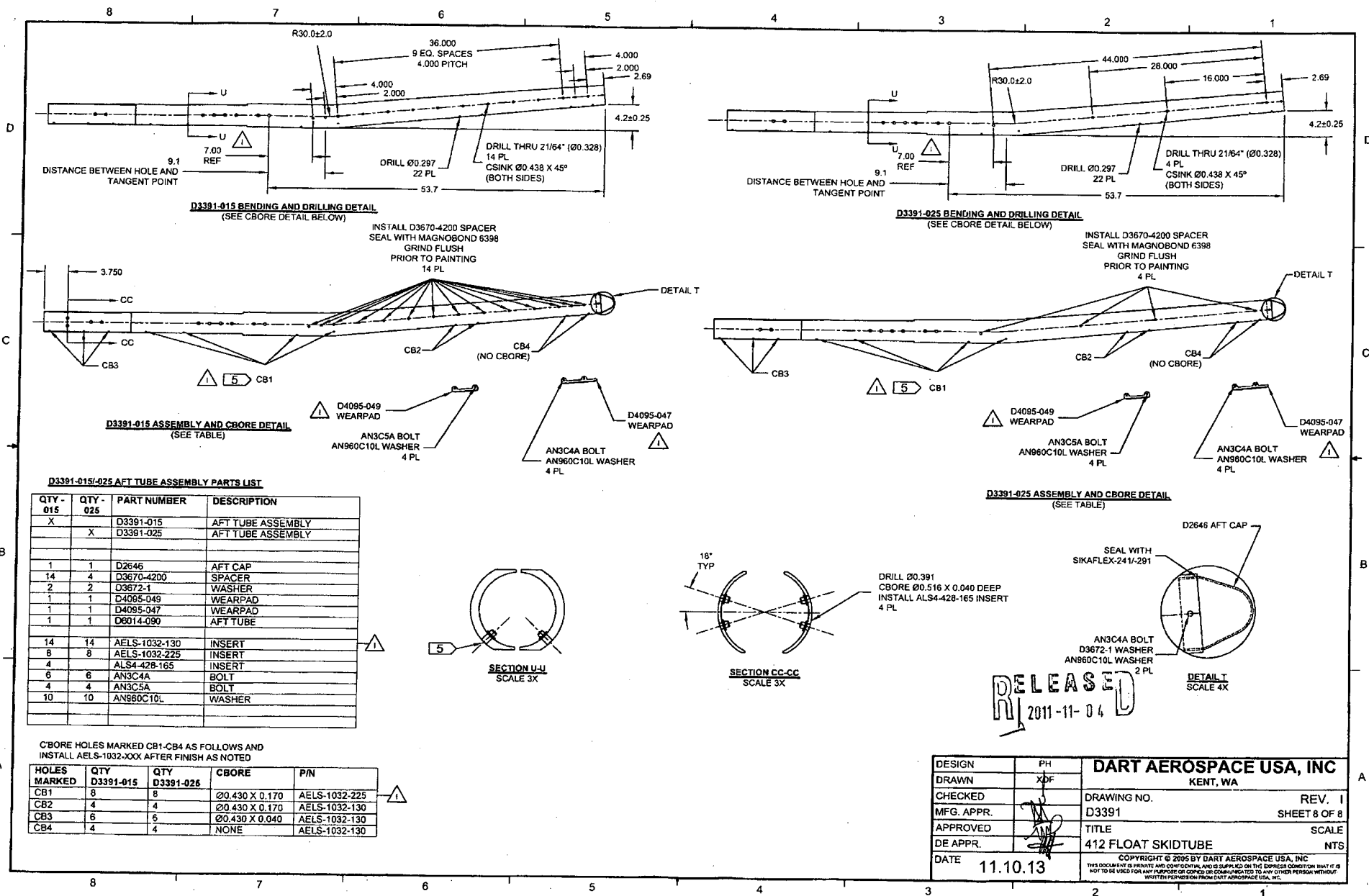
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